

01522

1992/03/28

SUPPLEMENT

REGARDING CHANGES IN SEISMIC EQUIPMENT AND ADDITIONAL MATTERS TO THE AGREEMENT-IN-PRINCIPLE BETWEEN THE STATE SEISMOLOGICAL BUREAU OF THE PEOPLES REPUBLIC OF CHINA AND THE UNITED STATES GEOLOGICAL SURVEY FOR UPGRADES TO THE CHINA DIGITAL SEISMOGRAPH NETWORK

Both sides, the State Seismological Bureau (SSB) of the People's Republic of China and the United States Geological Survey (USGS), will continue to honor the responsibilities stipulated in the Agreement-in-Principle between the SSB and the USGS for Upgrades to the China Digital Seismograph Network (CDSN), with the following supplement as the addition to the Agreement-in-Principle with the consent of both sides.

1. Both sides agree that the equipment specified in the Agreement-in-Principle to be provided at stations of the CDSN should be replaced by the equipment specified on the list attached to this supplement. The equipment on this list will be provided at each of the 10 stations of the CDSN.
2. Both sides recognize the complex problem of satellite telemetry of CDSN data and both sides agree to work toward a mutually satisfactory solution of this problem.
3. The USGS agrees to provide the SSB, on a more timely basis, data from the worldwide network of digital seismic stations. This data will be provided on magnetic tape within approximately three months of original recording.
4. The USGS agrees to assist the SSB in the development and training of specialists in the application of digital seismic data in research and operations.

Signed:

J.W.B. Gu Dang, PRC Side

State Seismological Bureau.

Date: Mar. 28 1992

Signed:

John R. Dil USA Side

United States Geological Survey.

Date: 3 March 1992

EQUIPMENT AND SOFTWARE TO BE SUPPLIED AT THE CHINA STATIONS & DHC
as part of the
SUPPLEMENT REGARDING CHANGES IN SEISMIC EQUIPMENT AND ADDITIONAL MATTERS

AGREEMENT-IN-PRINCIPLE

between the
STATE SEISMOLOGICAL BUREAU (SSB) OF THE PEOPLE'S REPUBLIC OF CHINA
and the
UNITED STATES GEOLOGICAL SURVEY (USGS).

Under Annex I of the Earthquake Studies Protocol, Part I,
UPGRADES TO THE CHINA DIGITAL SEISMOGRAPH NETWORK (CDSN)

This list of equipment and software is for 11 stations (10 existing stations
plus one spare). The ACTUAL EQUIPMENT & SOFTWARE SUPPLIED WILL DEPEND ON
COST, AVAILABILITY, AND EXPORTABILITY.

QTY	ITEM	DESCRIPTION	MANUFACTURER	TOTAL COST

SUPPLIES:

Standard seismometers:

1	VSM H.R. kit for 1 STS-IV + 2 STS-III	Intercetion Seismometers	\$ 4,000
1	VSM H.R. kit for 1 K-N-6000 Seismometer	Intercetion Seismometers	\$ 6,000

Optional instruments: (In addition to be selected, if any, will be selected
by USGS & SSB)

Option 1 (Total): Very short Period Accelerometers and low-cut filters
(3 stations only - use existing VSP at other 8 sites):

3	VSP	Vertical Seismometers and Accelerometers	\$ 20,000
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Option 2 (Total): Low Gain Seismometers and Accelerometers
(5 stations only plus 1 spare):

6	Low G.A.	Low Gain Seismometers	\$ 16,000
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Note: Each station processor has 6 channels. Three of these channels
are always used for the SGS VIII seismometers. Only three channels are
available for connection to optional seismometers. Therefore, any one
station can have either the VSP option or the LG option, but not both.)

ITEM	DESCRIPTION	KINETICS	TOTAL COST

QTY	MODEL	DESCRIPTION	MANUFACTURER	UNIT COST	TOTAL COST
DATA LOGGING EQUIPMENT & SOFTWARE:					
11	CG000/IX-GC	Data Acquisition (DA) Module: 6-channel Data Acquisition System with with GPS, clock and sine wave calibration	Quantum	\$11,100	\$422,400
11	...m/k	Application Software	Quantum, ASI	(-)	(-)
11	HJ47015155C	Processor (PC) Module: VMX Microprocessor System, 220 VAC, 50 Hz	Motorola	\$11,045	\$110,495
11	MME95B-1	Enclosure with 220V Power Supply	Motorola		
11	MME175A-1	Processor with 8MB DRAM (25 MHz)	Motorola		
11	MME712A/B	Transition Module	Motorola		
11	MME833F-5	Tape and Disk Drives	Motorola		
11		Application Software	Quantum, ASI	(-)	(-)
11		System License for OS-9 Operating System	Microsoft	\$ 4,000	\$ 22,000
6		Supporting Software: 6 Supporting Software: Professional OS-9/68000/J0 for DA & I/O			
22	IH6800A201	Pascal Compiler for DP			
11	PCI-680A681.1	Ethernet Support Package for I/O			
11	ESI-680A681.1				
I/O Accessories:					
11	HZ-8300	Quad Serial Board with 6U Faceplate	Hizar	\$ 405	\$ 5,445
22	HZ-6610	DAC Board	Hizar	\$ 995	\$ 21,890
22	8300-CB	Cable	Hizar	\$ 75	\$ 1,650
11	GS-245	Graphics Terminal, 220V/50Hz power	Gigalawn	\$ 1,447	\$ 12,617
11	KX-P1191	Printer, Graphics, with Serial I/O	Panasonic	\$ 210	\$ 2,750
11	SCRW 024-1-20	Battery Charger, 24V/20A	Fixide	\$ 1,005	\$ 19,855
22	PCU-1290X	Battery, 12V, 90 Amp-Hour	Pioneer Battery Co.	\$ 170	\$ 4,180
33	LS232E	Lightning Protector for RS-232 Port	GEM Semicond.	\$ 67	\$ 2,211
11	HS422E	Lightning Protector for RS-422 Port	GEM Semicond.	\$ 11	\$ 858
Display: Laser Printer:					
11	33481AB	Laser printer, 220V/50Hz Power, with Post Script cartridge, 2 MB memory, Parallel Interface	Hewlett Packard	\$ 3,000	\$ 33,000

QTY	MODEL	DESCRIPTION	MANUFACTURER	UNIT COST	TOTAL COST
DATA LOGGING EQUIPMENT & SOFTWARE (continued):					
DI Accessories (cont'd):					
11	HC-701924	Enclosure (Rack)	Optima	\$ 925	\$ 10,186
11	Basic Cabinet				
11	ROSF-7024	Side Panel (Pair)			
11	D-6119-1H	Solid Metal Door			
11	D-2119-1H	Acrylic Door			
44	P-0319	3.5" Panel			
33	P-0819	8.75" Panel			
11	MW-68	Leveling Feet (Set)			
11	PO-0712	Power Output Strip			
		Colors: White #931 for Bezel and Acrylic Door Frame.			
		Blue #216 for Top, Base, Sides, Panels, & Door.			
The following telemetry links will be necessary at some stations: (5 optical + spare MUXes, 1 RF) depending on DA-DP separation:					
6	ODS-302-G	8-Channel RS-232 Asynch. Optical MUX,	Opt. Data Sys.	\$ 1,200	\$ 7,200
6	ODS-302-G	"ST" connector, 220V/50Hz Power	Opt. Data Sys.	\$ 1,000	\$ 9,600
5	—	8-Channel RS-232 Asynch. Optical MUX,	Opt. Data Sys.	\$ 1,000	\$ 9,000
5	—	"ST" connector, 24 VDC power	(ASI)		
		Fiber Optic Cable, 1000 foot length,			
		with pulling eye at each end,			
		REMFU3 12-06-1-PI/06EX-06EX			
1	—	RF Link for HJI	Any	\$10,000	\$ 10,000
		Station parts, supplies, tools, & test equipment:			
11	—	Station spare parts & supplies	(ASI)	\$ 1,500	\$ 15,000
11	—	Station tools, test equipment	(ASI)	\$ 5,000	\$ 50,000
STATION DATA ANALYSIS EQUIPMENT & SOFTWARE:					
(Note: At three stations, the existing Sun 4/65CX-8 workstations installed under the GSE program will be used. Seven more Sun workstations plus a spare will be provided for the other seven stations.)					
8	Sun Workstation, Model IIC or equivalent, with laser printer and analysis software	Sum		\$21,000	\$168,000

QTY	MODEL	DESCRIPTION	MANUFACTURER	UNIT COST	TOTAL COST
DATA MANAGEMENT CENTER (DMC):					
The existing CDSN DMC will be maintained until September 30, 1992, at which time maintenance of this equipment will become the responsibility of SSB.					
1	---	The GSE National Data Center (NDC) equipment will be upgraded with hardware and software necessary to read the DC60HC tape cartridges generated by existing CDSN stations and to read the SED0-format tape cartridges to be generated by the upgraded stations.	(ASL)	\$25,000	\$ 25,000